DEATH TO ILLUK

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THE unchecked growth of Illuk can do great harm, particularly to a young coconut estate and prompt action must always be taken to eradicate this weed before it can get itself established. If it is left too long, its eradication becomes progressively more difficult, laborious and expensive.

Although powers exist under Plant Protection Ordinance No. 10 of 1924 to prevent the spread of weeds, pests and diseases, injurious to, or destructive of plants, Illuk unfortunately has not been declared a weed for the purposes of this Ordinance. Its wind-blown seeds are free to spread themselves far and wide over adjoining properties from a neglected piece of land on which this weed has been allowed to establish itself. In Malaya, owners whose properties are threatened by seeding Illuk can ask for a notice to be served on a careless land owner.

In Ceylon when a piece of jungle has been cleared, and then forgotten, or when a piece of chena is abandoned, the plants which first appear are Lantana (Sinh. Baloliya) and Illuk, the latter reproduces itself rapidly and ultimately prevails over the former, resulting in the typical sheet of Illuk, covering the whole land.

The original establishment of Illuk in such areas is, no doubt, dependent on the wind-blown seeds and it is of the utmost importance that on the first appearance of Illuk, the few plants which appear should be effectively eradicated before they have time to seed, multiply and establish themselves.

This is the first and most essential line of defence against the invasion of young coconut plantations by Illuk. It is pathetic and alarming to see extensive acreages of young plantations opened as colonisation schemes in the Chilaw District during recent years now transformed into waving seas of Illuk, leaving an inheritance of bad cultivation to the nation as a whole, (*e.g.* the Angunawila and Pothukuluma Middle Class Scheme).

METHODS OF CONTROL

The following methods of control may be considered :—

(1) Burning.
(2) Cultivation.
(3) Use of creeping and erect cover crops.
(4) Application of weedicides.
(5) Heavy grazing by cattle.
(6) Mowing or slashing.
(7) Mulching.

Burning.—This is probably the commonest and most disastrous method of all. Not only does it expose the bare soil to sheet erosion by tropical storms, but also the ashes of the grass heads fertilise the land. Each section of root left in the ground following such burning can reproduce a new plant and the new grass will grow with even greater vigour than before because of the ash. *So never, never burn a field of Illuk.*

Cultivation.—(*a*) The most effective method of controlling Illuk is by digging it out with mammoties and removing the underground stems. This is a very laborious process, but it is effective. Every part of the underground root system has to be carefully taken out by digging to a depth of about nine inches and these stems must be collected and burnt till nothing is left. Every small portion of stem with a node is capable of growing into a new plant. To clear the land completely this will have to be done at least twice after the first digging.

This digging is most expensive, but the palms are benefited so much, due to the cultivation they receive and the removal of the Illuk, that the high cost is covered by the increased crop, and the land is benefited for several years.

(*b*) Ploughing, followed by repeated discharrowing, is an alternative method of getting rid of this destructive weed. By ploughing, the underground roots are brought to the surface and exposed to the sun.

The " Ceres " plough is most satisfactory as it turns the soil particularly well. In a cultivation experiment carried out by the Soil Division, there is a marked difference between the ploughed and unploughed plots. Repeated ploughing reduces the growth of vegetative organs of the plant and the food reserves are gradually depleted. Such frequent ploughing reduces the sexual reproduction and subsequent dispersal of seeds, and soon the Illuk is replaced by other grasses.

(*c*) Harrowing is a useful aid in keeping down the surface growth of Illuk and it is much easier to operate the plough after harrowing standing Illuk. If, furthermore, the harrow is used after ploughing it cuts the roots that are brought up to the surface by the plough and in addition it breaks the clods of earth left by the plough and so exposes the roots to the sun. Harrowing alone, however, is not much use as it only reduces the aerial parts of the weed ; the underground stems that are still left in the ground and are able to grow again.

Use of Cover Crops.—Cover crops may be useful in many ways. Illuk does not like shade, and quick and vigorously growing cover crops could be planted, to provide shade as early as possible, before Illuk is in a position to establish itself. *Tephrosia candida* (Bogamedilla, Sinh.) was planted at Ratmalagara Estate after one area had been hand-weeded to remove the Illuk and this area is now totally free of Illuk, whereas on a hand-weeded area, without the cover plant, Illuk is still a problem. This leguminous cover plant has given equally successful results in Nigeria.

Application of Weedicides.—In economic crop production, the use of chemicals as weedicides can play a great part in the suppression of weeds where labour is expensive or not available. In lands, infested with Illuk, satisfactory growth of agricultural crops is impossible and to reduce the cost of its removal, the use of chemicals has been suggested.

In 1935 at the Central Experimental Station, in Malaya, experiments were carried out with sodium arsenite, sulphuric acid and also sodium chlorate to check the growth of Illuk. Ten pounds of sodium arsenite mixed with 50 to 60 gallons of water, per acre, at intervals of 10 days proved successful during wet and dry seasons. But the use of sodium arsenite cannot be advocated on coconut estates where cattle are allowed to graze, as it is very poisonous and will kill the cattle. The labourers who do the application also must be very careful not to touch it with naked hands, as it is dangerous if it gets into the system.

Grazing.—Under Ceylon conditions, cattle, particularly buffaloes, can be effective in eradicating Illuk. Young Illuk, about a month old, is relished by certain cattle, especially buffaloes, as it has a salty flavour. On some estates this practice has been adopted with success, but it is of course not possible where there are young palms. When Ratmalagara Estate was acquired by the Coconut Research Scheme in 1937, it was a mass of Illuk 3 to 4 feet high in several blocks, even under bearing palms. It has been considerably reduced since a herd of buffaloes were brought in to do the harrowing. The most effective way of getting rid of Illuk by cattle is to pen them in an area and make them graze heavily rather than allow them to roam freely at will.

In another manurial experiment carried out by the Soil Chemist at Marandawila Group, Bingiriya, which used to be heavily grazed by cattle, Illuk has recently reappeared since the area was fenced and cattle kept off. On an estate in the Puttalam district, in Mundel, where no Illuk was seen, it reappeared, when the grazing cattle died as a result of the rinderpest epidemics several years ago.

Mowing or Slashing.—Mowing of Illuk with implements specially made for the purpose such as hand scythes may be used when plough or harrow cannot be used where Illuk may be growing extensively as on drain bunds. By slashing, the green aerial parts are severed from the main stem and the plant is unable to prepare its own food in the absence of leaves ; as a result, the stored up food has to be utilised for the fresh growth of leaves. Repeated slashing keeps in check the top growth and the stored up food gradually gets exhausted so that the underground runners become weaker. Slashing should be so frequent as not to allow any aerial parts to appear so that the plant is starved. In a very short period a large acreage can be completed without much exhaustion.

Mulching.—The cut Illuk is spread on the ground as a mulch so that the growth of the weed in the ground is delayed by suffocation. Mulching round young palms prevents the growth of Illuk, if the layer is thick enough. It also keeps the soil moist and promotes the growth of the palm.

It must always be remembered that prevention is better than cure and it is false economy to neglect or overlook the first appearance of Illuk in order to save money.